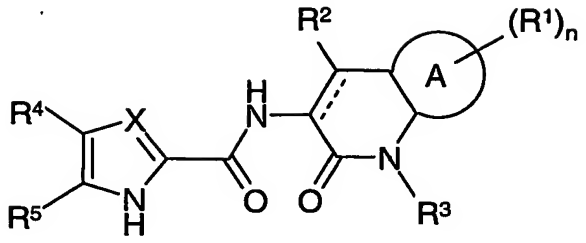
Claims

1. A compound of formula (1):



(1)

wherein:

$\overline{\text{----}}$ is a single or double bond;

X is N or CH;

R^4 and R^5 together are either $-S-C(R^6)=C(R^7)-$ or $-C(R^7)=C(R^6)-S-$;

R^6 and R^7 are independently selected from hydrogen, halo, nitro, cyano, hydroxy, fluoromethyl, difluoromethyl, trifluoromethyl, trifluoromethoxy, carboxy, carbamoyl, C_{1-4}alkyl, C_{2-4}alkenyl, C_{2-4}alkynyl, C_{1-4}alkoxy and C_{1-4}alkanoyl;

A is phenylene or heteroarylene;

n is 0, 1 or 2;

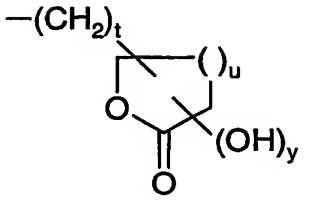
R^1 is independently selected from halo, nitro, cyano, hydroxy, carboxy, carbamoyl, *N*-C_{1-4}alkylcarbamoyl, *N*,*N*-(C_{1-4}alkyl)$_2$carbamoyl, sulphamoyl, *N*-C_{1-4}alkylsulphamoyl, *N*,*N*-(C_{1-4}alkyl)$_2$sulphamoyl, -S(O)$_b$$C_{1-4}$alkyl (wherein b is 0, 1, or 2), C_{1-4}alkyl, C_{2-4}alkenyl, C_{2-4}alkynyl, C_{1-4}alkoxy, C_{1-4}alkanoyl, C_{1-4}alkanoyloxy, hydroxyC_{1-4}alkyl, fluoromethyl, difluoromethyl, trifluoromethyl and trifluoromethoxy;

or, when n is 2, the two R^1 groups, together with the carbon atoms of A to which they are attached, may form a 4 to 7 membered ring, optionally containing 1 or 2 heteroatoms independently selected from O, S and N, and optionally being substituted by one or two methyl groups;

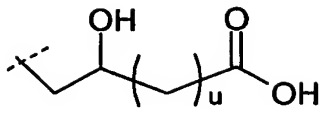
R^2 is hydrogen, hydroxy or carboxy;

R^3 is selected from hydrogen, hydroxy, C_{1-4}alkoxy, C_{1-4}alkanoyl, carbamoyl, C_{3-7}cycloalkyl (optionally substituted with 1 or 2 hydroxy groups), cyano(C_{1-4})alkyl, aryl, heterocyclyl, C_{1-4}alkyl (optionally substituted by 1 or 2 R^8 groups), and

groups of the formulae B and B':



(B)



(B')

wherein y is 0 or 1, t is 0, 1, 2 or 3 and u is 1 or 2; provided that the hydroxy group is not a substituent on the ring carbon adjacent to the ring oxygen;

R^8 is independently selected from hydroxy, C_{1-4}alkoxyC_{1-4}alkoxy, hydroxyC_{1-4}alkoxy, 5- and 6-membered cyclic acetals and mono- and di-methyl derivatives thereof, aryl, heterocyclyl, C_{3-7}cycloalkyl, C_{1-4}alkanoyl, C_{1-4}alkoxy, C_{1-4}alkyl$S(O)_b$- (wherein b is 0, 1 or 2), C_{3-6}cycloalkyl$S(O)_b$- (wherein b is 0, 1 or 2), aryl$S(O)_b$- (wherein b is 0, 1 or 2), heterocyclyl$S(O)_b$- (wherein b is 0, 1 or 2), benzyl$S(O)_b$- (wherein b is 0, 1 or 2), -N(OH)CHO, -C(=N-OH)NH_2, -C(=N-OH)NHC_{1-4}alkyl, -C(=N-OH)$N(C_{1-4}alkyl)_2$, -C(=N-OH)NHC_{3-6}cycloalkyl, -C(=N-OH)$N(C_{3-6}cycloalkyl)_2$, -COCOOR^9, -C(O)N(R^9)(R^{10}), -NHC(O)R^9, -C(O)N$HSO_2(C_{1-4}$alkyl), -NHSO_2R^9, (R^9)(R^{10})NSO_2-, -COCH_2OR^{11}, (R^9)(R^{10})N- and -COOR^9;

R^9 and R^{10} are independently selected from hydrogen, hydroxy, C_{1-4}alkyl (optionally substituted by 1 or 2 R^{13}), C_{3-7}cycloalkyl (optionally substituted by 1 or 2 hydroxy groups), cyano(C_{1-4})alkyl, trihalo(C_{1-4})alkyl, aryl, heterocyclyl and heterocyclyl(C_{1-4}alkyl); or

R^9 and R^{10} together with the nitrogen to which they are attached form a 4- to 6-membered ring where the ring is optionally substituted on carbon by 1 or 2 substituents independently selected from oxo, hydroxy, carboxy, halo, nitro, cyano, carbonyl, C_{1-4}alkoxy and heterocyclyl; or the ring may be optionally substituted on two adjacent carbons by –O-CH_2-O- to form a cyclic acetal wherein one or both of the hydrogens of the -O-CH_2-O- group may be replaced by a methyl;

R^{13} is selected from hydroxy, halo, trihalomethyl and C_{1-4}alkoxy;

R^{11} is independently selected from hydrogen, C_{1-4}alkyl and hydroxyC_{1-4}alkyl;

or a pharmaceutically acceptable salt or pro-drug thereof;

with the proviso that the compound of formula (1) is not:

(i) 2,3-dichloro-5-[*N*-(2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-4*H*-thieno[3,2-*b*]pyrrole;

(ii) 2-chloro-5-[*N*-(2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole; or

(iii) 2-chloro-5-[*N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole.

2. A compound of the formula (1) as claimed in claim 1; wherein

R^3 is selected from hydrogen, hydroxy, C_{1-4}alkoxy, C_{1-4}alkanoyl, carbamoyl, C_{3-7}cycloalkyl (optionally substituted with 1 or 2 hydroxy groups, cyano(C_{1-4})alkyl, morpholino, morpholinyl, piperidino, piperidyl, pyridyl, pyranyl, pyrrolyl, imidazolyl, thiazolyl, thienyl, thiadiazolyl, piperazinyl, isothiazolidinyl, 1,3,4-triazolyl, tetrazolyl, pyrrolidinyl, thiomorpholino, pyrrolinyl, homopiperazinyl, 3,5-dioxapiperidinyl, pyrimidyl, pyrazinyl, pyridazinyl, pyrazolyl, pyrazolinyl, isoxazolyl, 4-oxopydridyl, 2-oxopyrrolidyl, 4-oxothiazolidyl, furyl, thienyl, oxazolyl, 1,3,4-oxadiazolyl, and 1,2,4-oxadiazolyl, tetrahydrothiopyranyl, 1-oxotetrahydrothiopyranyl, 1,1-dioxotetrahydrothiopyranyl and C_{1-4}alkyl (optionally substituted by 1 or 2 R^8 groups);

R^9 and R^{10} are independently selected from hydrogen, hydroxy, C_{1-4}alkyl (optionally substituted by 1 or 2 R^{13} groups), C_{3-7}cycloalkyl (optionally substituted by 1 or 2 hydroxy groups), cyano(C_{1-4})alkyl, trihalo C_{1-4}alkyl, aryl, heterocyclyl and heterocyclyl(C_{1-4}alkyl); or

R^9 and R^{10} together with the nitrogen to which they are attached form a 4- to 6-membered ring where the ring is optionally substituted on carbon by 1 or 2 substituents selected from oxo, hydroxy, carboxy, halo, nitro, cyano, carbonyl and C_{1-4}alkoxy, or the ring may be optionally substituted on two adjacent carbons by –O-CH_2-O- to form a cyclic acetal wherein one or both of the hydrogens of the –O-CH_2-O- group may be replaced by a methyl;

R^8 is independently selected from hydroxy, C_{1-4}alkoxyC_{1-4}alkoxy, hydroxyC_{1-4}alkoxy, 5- and 6-membered cyclic acetals and mono- and di-methyl derivatives thereof, aryl, heterocyclyl, C_{3-7}cycloalkyl, C_{1-4}alkanoyl, C_{1-4}alkoxy, C_{1-4}alkylS(O)$_b$- (wherein b is 0, 1 or 2), C_{3-6}cycloalkylS(O)$_b$- (wherein b is 0, 1 or 2), arylS(O)$_b$- (wherein b is 0, 1 or 2), heterocyclylS(O)$_b$- (wherein b is 0, 1 or 2), benzylS(O)$_b$- (wherein b is 0, 1 or 2), -N(OH)CHO, -C(=N-OH)NH_2, -C(=N-OH)NHC_{1-4}alkyl, -C(=N-OH)N(C_{1-4}alkyl)$_2$, , -C(=N-OH)NHC_{3-6}cycloalkyl, -C(=N-OH)N(C_{3-6}cycloalkyl)$_2$, -COCOOR^9, -C(O)N(R^9)(R^{10}), -NHC(O)R^9,

$-C(O)NHSO_2(C_{1-4}alkyl)$, $-NHSO_2R^9$, $(R^9)(R^{10})NSO_2-$, $-COCH_2OR^{11}$, $(R^9)(R^{10})N-$ and $-COOR^9$;

R^{13} is selected from hydroxy, halo, trifluoromethyl and C_{1-4}alkoxy;

R^{11} is selected from hydrogen, C_{1-4}alkyl and hydroxyC_{1-4}alkyl.

or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof;

provided that the compound of formula (1) is not:

(i) 2,3-dichloro-5-[*N*-(2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-4*H*-thieno[3,2-*b*]pyrrole;

(ii) 2-chloro-5-[*N*-(2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole; or

(iii) 2-chloro-5-[*N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole.

3. A compound of the formula (1) as claimed in claim 1 or claim 2, wherein

R^3 is selected from cyanoC_{1-4}alkyl and C_{1-4}alkyl (optionally substituted by 1 or 2 of R^8 groups);

R^8 is independently selected from hydroxy, phenyl, 2,2-dimethyl-1,3-dioxolan-4-yl; 2,2-dimethyl-1,3-dioxan-4-yl; 2,2-dimethyl-1,3-dioxan-5-yl, 1,2,4-oxadiazolyl, 1,3,4-oxadiazolyl, triazolyl, tetrazolyl, imidazolyl, pyrrolidinyl, piperidyl, tetrahydrofuryl, tetrahydropyranyl, tetrahydrothiopyranyl and tetrahydrothienyl, C_{1-4}alkoxy, C_{1-4}alkanoyl, C_{1-4}alkyl$S(O)_b-$ (wherein b is 0, 1 or 2), $-C(O)N(R^9)(R^{10})$, $-COOR^9$, $-C(O)NHSO_2Me$, $-C(=N-OH)NH_2$, $-C(=N-OH)NHC_{1-4}$alkyl, $-C(=N-OH)N(C_{1-4}alkyl)_2$ and $-NHSO_2R^9$;

R^9 and R^{10} are independently selected from hydrogen, hydroxy, C_{1-4}alkyl optionally substituted with R^{13} (wherein R^{13} is C_{1-4}alkoxy or hydroxy); or

R^9 and R^{10} together with the nitrogen to which they are attached form a 4- to 6-membered ring where the ring may be optionally substituted on carbon by 1 or 2 hydroxy groups or carboxy groups), or the ring may be optionally substituted on two adjacent carbons by $-O-CH_2-O-$ to form a cyclic acetal wherein one or both of the hydrogens of the $-O-CH_2-O-$ group may be replaced by a methyl.

or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof;

provided that the compound of formula (1) is not:

2-chloro-5-[*N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole.

4. A compound of the formula (1) as claimed any preceding claim, wherein

R^3 is selected from cyanoC_{1-4}alkyl and C_{1-4}alkyl (optionally substituted by 1 or 2 R^8 groups);

R^8 is independently selected from hydroxy, 2,2-dimethyl-1,3-dioxolan-4-yl, 1,2,4-oxadiazolyl, 1,3,4-oxadiazolyl, tetrazolyl, C_{1-4}alkoxy, C_{1-4}alkanoyl, C_{1-4}alkyl$S(O)_b$- (wherein b is 0, 1 or 2), -$C(O)N(R^9)(R^{10})$, -$COOR^9$, -$C(O)NHSO_2Me$, -$C(=N\text{-}OH)NH_2$;

R^9 and R^{10} are independently selected from hydrogen, hydroxy, C_{1-4}alkyl optionally substituted with R^{13} (wherein R^{13} is C_{1-4}alkoxy or hydroxy); or

R^9 and R^{10} together with the nitrogen to which they are attached form a 4- to 6-membered ring selected from piperidine, 4-hydroxy piperidine, pyrrolidine, 3,4-dihydroxypyrrolidine and the dimethylacetal of 3,4-dihydroxypyrrolidine.

or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof;

provided that the compound of formula (1) is not:

2-chloro-5-[*N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole.

5. A compound of the formula (1) as claimed any preceding claim, wherein R^4 and R^5 together are –S-$C(R^6)$=$C(R^7)$- or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

6. A compound of the formula (1) as claimed in claims 1 to 5, wherein R^4 and R^5 together are –$C(R^7)$=$C(R^6)$-S- or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

7. A compound of the formula (1) as claimed any preceding claim, wherein X is CH, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

8. A compound of the formula (1) as claimed in any one of claims 1 to 6, wherein X is N, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

9. A compound of the formula (1) as claimed any preceding claim, wherein A is phenylene, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

10. A compound of the formula (1) as claimed in any one of claims 1 to 8, wherein A is heteroarylene, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

11. A compound of the formula (1) as claimed any preceding claim, wherein ---- is a single bond, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

12. A compound of the formula (1) as claimed in claim 1, which is any one of:
2-chloro-*N*-[1-(methoxycarbonylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
N-[1-(carboxymethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-2-chloro-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
2-chloro-*N*-[1-(carbamoylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
2-chloro-*N*-[1-(*N*,*N*-dimethylcarbamoylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
2-chloro-*N*-[1-(*N*-methylcarbamoylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]- 6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
2-chloro-*N*-[1-(*N*-hydroxycarbamoylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]- 6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
2-chloro-*N*-{1-[*N*-(2-hydroxyethyl)carbamoylmethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
2-chloro-*N*-[1-(2-hydroxyethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrol-5-ylcarboxamide;
2-chloro-*N*-[1-(2,3-dihydroxypropyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
2-chloro-*N*-{1-[(2,2-dimethyl-1,3-dioxolan-4(*S*)-yl)methyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3(*R*,*S*)-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
2-chloro-*N*-[1-(2(*S*),3-dihydroxypropyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3(*R*,*S*)-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[1-(2,2-dimethyl-1,3-dioxolan-4(*R*)-ylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3(*R,S*)-yl]- 6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide

2-chloro-*N*-[1-(2(*R*),3-dihydroxypropyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3(*R,S*)-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(4-hydroxypiperidin-1-yl)-2-oxoethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[*N*-(1,3-dihydroxyprop-2-yl)carbamoylmethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[*N*-(2-Methoxyethyl)carbamoylmethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-(1-{2-[(3a,6a- *cis*)-2,2-dimethyltetrahydro-5*H*-[1,3]dioxolo[4,5-*c*]pyrrol-5-yl]-2-oxoethyl}-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl)- 6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-(1-{2-[(*cis*)-3,4-Dihydroxypyrrolidin-1-yl]-2-oxoethyl}-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(dimethylamino)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[(2,2-dimethyl-1,3-dioxan-5-yl)methyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[3-hydroxy-2-(hydroxymethyl)propyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-{1-[(2,2-dimethyl-1,3-dioxan-5-yl)methyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-{1-[3-hydroxy-2-(hydroxymethyl)propyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-(1-{2-[(2,3-dihydroxypropyl)amino]-2-oxoethyl}-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(methoxy)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[1-(cyanomethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[(3-methyl-1,2,4-oxadiazol-5-yl)methyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[2-oxo-1-(1*H*-tetrazol-5-ylmethyl)-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-(1-{2-[(methylsulphonyl)amino]-2-oxoethyl}-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

N-{1-[(2*Z*)-2-amino-2-(hydroxyimino)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-2-chloro-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{2-oxo-1-[(5-oxo-4,5-dihydro-1,2,4-oxadiazol-3-yl)methyl]-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

N-{1-[(5-amino-1,3,4-oxadiazol-2-yl)methyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-2-chloro-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(methylthio)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(methylsulfinyl)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(methylsulfonyl)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-[1-(methoxycarbonylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

N-[1-(carboxymethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-2,3-dichloro-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-[1-(2-hydroxyethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-{1-[(2*R*)-2,3-dihydroxypropyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[3-(dimethylamino)-2-hydroxypropyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{2-oxo-1-[(2-oxo-1,3-dioxan-5-yl)methyl]-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[1-(3-hydroxypropyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[3-(methylamino)-3-oxopropyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[2-oxo-1-(2-oxobutyl)-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[1-(2-hydroxybutyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-b]pyrrole-5-carboxamide;

2,3-dichloro-*N*-[(6*S*)-7-oxo-5,6,7,8-tetrahydroimidazo[1,2-*a*]pyrimidin-6-yl]-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-(2oxo-1,2,3,4-tetrahydro-1,5-naphthyridin-3-yl)-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-(2-oxo-1,2,3,4-tetrahydro-1,7-naphthyridin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

N-(6-fluoro-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide; and

N-(6-methoxy-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

or a pharmaceutically acceptable salt or an in-vivo hydrolysable ester thereof.

13. A pharmaceutical composition which comprises a compound of the formula (1), or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof, as claimed in any one of claims 1 to 12 in association with a pharmaceutically-acceptable diluent or carrier.

14. A compound of the formula (1), or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof, as claimed in any one of claims 1 to 12, for use in a method of treatment of a warm-blooded animal such as man by therapy.

15. A compound of the formula (1), or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof, as claimed in any one of claims 1 to 12, for use as a medicament.

16. A compound of the formula (1), or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof, as claimed in any one of claims 1 to 12, for use as a medicament in the treatment of type 2 diabetes, insulin resistance, syndrome X, hyperinsulinaemia, hyperglucagonaemia, cardiac ischaemia or obesity in a warm-blooded animal such as man.

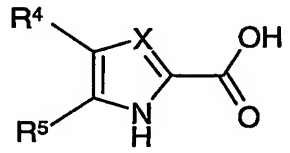
17. The use of a compound of the formula (1), or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof, as claimed in any one of claims 1 to 12, in the manufacture of

a medicament for use in the treatment of type 2 diabetes, insulin resistance, syndrome X, hyperinsulinaemia, hyperglucagonaemia, cardiac ischaemia or obesity in a warm-blooded animal such as man.

18. The use of a compound of the formula (1), or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof, as claimed in any one of claims 1 to 12, in the manufacture of a medicament for use in the treatment of type 2 diabetes in a warm-blooded animal such as man.

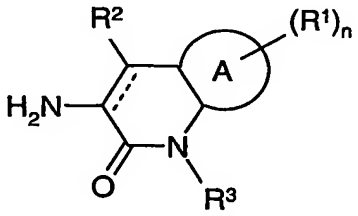
19. A process for the preparation of a compound of formula (1) as claimed in claim 1, which process comprises:

reacting an acid of the formula (2):



(2)

or an activated derivative thereof; with an amine of formula (3):



(3)

and thereafter if necessary:

i) converting a compound of the formula (1) into another compound of the formula (1);

ii) removing any protecting groups;

iii) forming a pharmaceutically acceptable salt or *in vivo* hydrolysable ester.